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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/511,008

05/20/2005

Arthur Shelley

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6714

27717 7590 02/22/2007  
SEYFARTH SHAW LLP  
131 S. DEARBORN ST., SUITE2400  
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EXAMINER

SOROUGH, ALI

ART UNIT

PAPER NUMBER

1616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/22/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/511,008

Applicant(s)

SHELLEY ET AL.

Examiner

Ali Soroush

Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication; even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 10-17,20,21 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9,18,19 and 22-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. PCT Rule 13.1 states that the international application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept. PCT Rule 13.2 states that unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features.

Annex B, Part 1 (a), indicates that the application should relate to only one invention, or if there is more than one invention, inclusion is permitted if they are so linked to form a single inventive concept.

Annex B, Part 1 (b), indicates that "special technical features" means those technical features which as a whole define a contribution over the prior art.

Annex B, Part 1 (c), further defines independent and dependent claims. Unity of invention is concern only in relation to independent claims. Dependent claims are defined as claims which contain all the features of another claim and are in the same category as the other claim. The category of a claim refers to the classification of claims according to subject matter, e.g. product, process, use, apparatus, means, etc.

Annex B, Part 1 (e), indicates the permission combinations of different categories of claims. Part 1 (e(I)) states that inclusion of an independent claim for a given product, an independent claim for a process specially adapted for the manufacture of the said product, and an independent claim for use of the said product is permissible.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-9, 18, 19, and 22-25, drawn to a method of preparing clear aqueous solution containing magnesium bicarbonate.

Group II, claim(s) 10-17, 20, 21, and 26, drawn to an apparatus for preparing an aqueous solution of magnesium bicarbonate.

#### *Lack of a Special Technical Feature*

The inventions listed in Groups I and II do not meet the requirements for Unity of Invention because PCT Rule 13 restricts Unity of Invention to a single independent claim for a given product, a single independent claim for a process adapted to make that product, and a single independent claim for the use of said product. Therefore, a requirement for restriction is appropriate here where more than one product and more than one method for using said product are presented.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or

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corresponding special technical features for the following reasons: The claims herein lack a significant structural element qualifying as the special technical feature that defines a contribution over the prior art. The technical feature, "aqueous magnesium bicarbonate", as defined by claim 1 is not novel. Aqueous magnesium bicarbonate is found in the prior art (See Sibert, US 4473255, Published 09/25/1984, abstract). Accordingly, Unity of Invention is considered lacking and a restriction of the invention is considered to be proper.

### ***Election***

During a telephone conversation with Harold Stotland on 02/08/2007 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-9, 18, 19, and 22-25. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10-17, 20, 21, and 26 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112 First Paragraph***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9, 18 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1-9, 18 and 19 recite, "Suitable conditions of pressure". However, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

Attention is directed to *In re Wands*, 8 USPQ2d 1400 (CAFC 1988) at 1404 where the court set forth the eight factors to consider when assessing if a disclosure would have required undue experimentation. Citing *Ex parte Forman*, 230 USPQ 546 (BdApl 1986) at 547 the court recited eight factors:

- (1) the nature of the invention
- (2) the state of the prior art
- (3) the relative skill of those in the art
- (4) the predictability of the art
- (5) the breadth of the claims
- (6) the amount of direction or guidance provided

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- (7) the presence or absence of working examples
- (8) the quantity of experimentation necessary

The instant specification fails to provide guidance that would allow the skilled artisan to practice the instant invention without resorting to undue experimentation, as discussed in the subsections set forth herein below.

*The nature of the invention*

The claimed invention relates to a method of producing a clear aqueous magnesium bicarbonate solution by mixing carbon dioxide and water and adding magnesium carbonate to the solution. Further the pH and temperature is maintained at certain conditions, i.e. pH 7.8 to 9 and temperature of 0° to 25°C.

*The state of the prior art*

In Australian patent (735435) by Beckett commonly owned by the assignee of the instant applicant a similar invention is claimed. Beckett teaches, "Typically one liter of water is placed in a container and sufficient carbonic acid and/or carbonated water and/or hydrated carbon dioxide and/or carbon dioxide gas and/or solid carbon dioxide is added to produce a pH value of approximately pH 5.2. (See page 21, Lines 27-29). "The container is sealed and the contents are mixed. 485mg magnesium carbonate hydroxide pentahydrate powder ( $\text{MgCO}_3)_4 \cdot \text{Mg}(\text{OH})_2 \cdot 5\text{H}_2\text{O}$ , molecular weight 485 is added. The container is again sealed and the contents are mixed." (See page 21, Lines 31-33). "The container is stored at a temperature of 0 to 10°C and the contents are mixed regularly. Sufficient time and temperature is allowed for a clear solution of magnesium bicarbonate to develop at a range of pH 8.0 to pH 8.6, preferably 8.3. This takes approximately 24 to 72 hours." (See page 22, Lines 1-3). "Generally once the

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solution is prepared, it may be stored under a blanket of carbon dioxide gas to maintain the solution at a pH of 7 to 9 and a temperature of 0 to 25°C.” (See page 22, Lines 21-22). Beckett further teaches, “Optionally the solution may be sterilized.” (See page 23, Lines 11-12).

*The amount of direction or guidance provided / The presence or absence of working examples*

The Applicant does not provide direction or guidance to enable one sufficiently skilled in the art to practice the invention such that the pressure conditions under which a clear aqueous solution of magnesium bicarbonate is produced utilizing water, carbon dioxide, and magnesium carbonate as substrates of the reaction is performed . The specification does not clearly and specifically disclose particular pressures with which to carry out the method steps. Without such a disclosure one would expect that the method described by the applicant would give a similar outcome as those described in the prior art. That is to say the method would be expected to give a clear aqueous solution of magnesium bicarbonate at any pressure, as the prior art is silent to such a condition.

*The quantity of experimentation necessary*

In order for a person skilled in the art at the time of the invention to practice the invention disclosed by the applicant, they would need to know what specific pressure conditions are necessary to produce a solution of clear aqueous magnesium bicarbonate. Without such disclosure one skilled in the art would assume that the outcome would be similar to what has been taught in the prior art.



Therefore, for the aforementioned reasons, the Applicant is not enabled for a clear aqueous solution of magnesium bicarbonate produced under "suitable conditions of pressure" since undue experimentation would be required to use the invention commensurate in scope with the claims.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9, 18, 19, 22-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 2, 4, 18, 19, 22, and 23 recite, "including" or "include". The terms "including" and "include" imply that the method steps as claimed are incomplete. Therefore, the metes and bound of these claims and there dependent claims are not particularly and distinctly defined.

Claims 1, 2, 4, 18, 19, 22, and 23 recite, "Substantially clear aqueous solution". Therefore, the metes and bounds of these claims and there dependent claims are not particularly and distinctly defined.

Claims 1, 2, 4, 18, and 19 recite, "Suitable conditions of pressure". Therefore, the metes and bound of the claims and there dependent claims are not particularly and distinctly defined.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 18, 19, and 22-25 rejected under 35 U.S.C. 102(b) as being anticipated by Beckett (AU 735435, Published 09/17/1998).

Beckett teaches, "Typically **one liter of water is placed in a container and sufficient carbonic acid and/or carbonated water and/or hydrated carbon dioxide and/or carbon dioxide gas and/or solid carbon dioxide is added to produce a pH value of approximately pH 5.2.** (See page 21, Lines 27-29). "The container is sealed and the contents are mixed. **485mg magnesium carbonate hydroxide pentahydrate powder** ( $\text{MgCO}_3)_4 \cdot \text{Mg}(\text{OH})_2 \cdot 5\text{H}_2\text{O}$ , molecular weight 485 **is added. The container is again sealed and the contents are mixed.**" (See page 21, Lines 31-33). "The container is stored at a temperature of 0 to 10°C and the contents are mixed regularly. Sufficient time and temperature is allowed for **a clear solution of magnesium bicarbonate to develop at a range of pH 8.0 to pH 8.6, preferably 8.3.** This takes approximately 24 to 72 hours." (See page 22, Lines 1-3). "Generally once the solution is prepared, it may be stored under a blanket of carbon dioxide gas to **maintain the solution at a pH of 7 to 9 and a temperature of 0 to 25°C.**" (See page 22, Lines 21-22). Beckett further teaches, "Optionally the m." (See page 23, Lines 11-12).

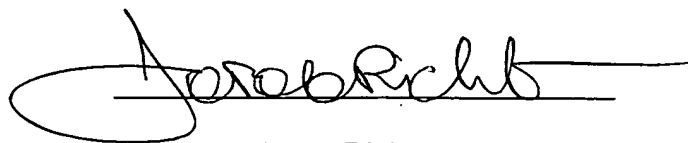
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Soroush whose telephone number is (571) 272-9925. The examiner can normally be reached on Monday through Thursday 8:30am to 5:00pm E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ali Soroush  
Patent Examiner  
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A handwritten signature in black ink, appearing to read 'Johann Richter', is written over a horizontal line.

Johann Richter, Ph.D. Esq.  
Supervisory Patent Examiner  
Technology Center 1600